# Dell™ Inspiron™ 1440 Service Manual



## Notes, Cautions, and Warnings

**NOTE:** A NOTE indicates important information that helps you make better use of your computer.

**CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**

**WARNING: A WARNING indicates a potential for property damage, personal injury, or death.**




Model PP42L

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# Module Cover

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 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as the back panel) on the computer.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

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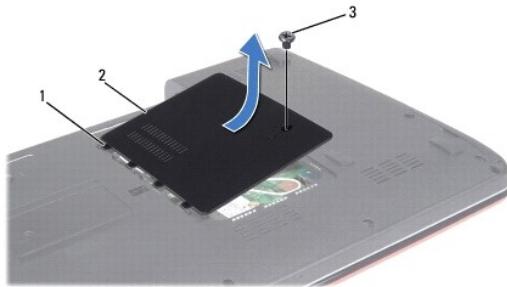
## Removing the Module Cover

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the screw that secures the module cover to the computer base.
4. Lift the module cover off the computer at an angle as shown in the figure.

| 1 | module cover tabs (4) | 2 | module cover |
|---|---|---|---|
| 3 | screw | | |

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## Replacing the Module Cover

1. Align the tabs on the module cover with the slots on the computer base and gently snap it into place.
2. Replace the screw that secures the module cover to the computer base.
3. Replace the battery (see Replacing the Battery).

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# Before You Begin

**Dell™ Inspiron™ 1440 Service Manual**



This section provides procedures for removing and installing components in your computer. Unless otherwise noted, each procedure assumes that the following conditions exist:

- You have performed the steps in Turning Off Your Computer and Before Working Inside Your Computer.
- You have read the safety information that shipped with your computer.
- A component can be replaced or—if purchased separately—installed by performing the removal procedure in the reverse order.

## Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- Phillips screwdriver
- Plastic scribe
- BIOS upgrade CD or the BIOS executable update program available on the Dell Support website at **support.dell.com**

## Turning Off Your Computer

**CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.**

1. Save and close all open files and exit all open programs.
2. In Windows Vista®, click **Start**, click the arrow, and then click **Shut Down**.
   The computer turns off after the operating system shutdown process finishes.
3. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button until the computer turns off.

## Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your own personal safety.

**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.**

**CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.**

**CAUTION: To avoid damaging the computer, perform the following steps before you begin working inside the computer.**

1. Ensure that the work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see Turning Off Your Computer).
3. If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.

**CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.**

4. Disconnect all telephone or network cables from the computer.

5. Press and eject any installed cards from the ExpressCard slot or the 7-in-1 Media Card Reader.

6. Disconnect your computer and all attached devices from their electrical outlets.

7. Remove the battery (see Removing the Battery).

8. Turn the computer top-side up, open the display, and press the power button to ground the system board.

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# Flashing the BIOS

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If a BIOS-update program CD is provided with the new system board, flash the BIOS from the CD. If you do not have a BIOS-update program CD, flash the BIOS from the hard drive.

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## Flashing the BIOS From a CD

1. Ensure that the AC adapter is plugged in and that the main battery is installed properly.

**NOTE:** If you use a BIOS-update program CD to flash the BIOS, set up the computer to boot from a CD before inserting the CD.

2. Insert the BIOS-update program CD, and restart the computer.
   Follow the procedures that appear on the screen. The computer continues to boot and updates the new BIOS. When the flash update is complete, the computer will automatically restart.
3. Press <F2> during POST to enter the system setup program.
4. Press <F9> to reset the computer defaults.
5. Press <Esc>, select **Save changes and reboot**, and press <Enter> to save configuration changes.
6. Remove the BIOS-update program CD from the drive and restart the computer.

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## Flashing the BIOS From the Hard Drive

1. Ensure that the AC adapter is plugged in, the main battery is properly installed, and a network cable is attached.
2. Turn on the computer.
3. Locate the latest BIOS update file for your computer at **support.dell.com**.
4. Click **Drivers & Downloads**→ **Select Model**.
5. Select the type of product in the **Select Your Product Family** list.
6. Select the product brand in the **Select Your Product Line** list.
7. Select the product model number in the **Select Your Product Model** list.

**NOTE:** If you have selected a different model and want to start over again, click Start Over on the top right of the menu.

8. Click **Confirm**.
9. A list of results appear on the screen. Click **BIOS**.
10. Click **Download Now** to download the latest BIOS file.
    The **File Download** window appears.
11. Click **Save** to save the file on your desktop. The file downloads to your desktop.
12. Click **Close** if the **Download Complete** window appears.
    The file icon appears on your desktop and is titled the same as the downloaded BIOS update file.
13. Double-click the file icon on the desktop and follow the procedures on the screen.

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# Internal Card With Bluetooth® Wireless Technology

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**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

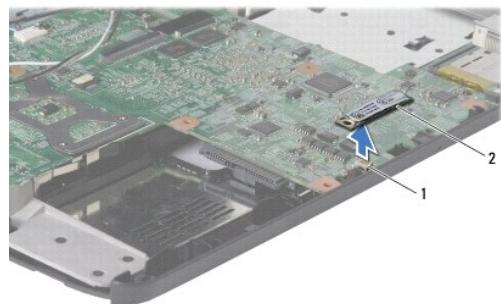
**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

If you ordered a card with Bluetooth wireless technology with your computer, it is already installed.

## Removing the Bluetooth Card

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the module cover (see Removing the Module Cover).
4. Remove the memory module(s) (see Removing the Memory Module(s)).
5. Remove the hard drive (see Removing the Hard Drive).
6. Remove the optical drive (see Removing the Optical Drive).
7. Remove the center control cover (see Removing the Center Control Cover).
8. Remove the keyboard (see Removing the Keyboard).
9. Remove the power button board (see Removing the Power Button Board).
10. Remove the palm rest (see Removing the Palm Rest).
11. Lift the Bluetooth card to disconnect it from the system board connector.

| 1 | system board connector | 2 | Bluetooth card |
|---|---|---|---|

## Replacing the Bluetooth Card

1. Align the connector on the Bluetooth card with the connector on the system board and press the Bluetooth card.
2. Replace the palm rest (see Replacing the Palm Rest).
3. Replace the power button board (see Replacing the Power Button Board).
4. Replace the keyboard (see Replacing the Keyboard).
5. Replace the center control cover (see Replacing the Center Control Cover).
6. Replace the optical drive (see Replacing the Optical Drive).
7. Replace the hard drive (see Replacing the Hard Drive).
8. Replace the memory module(s) (see Replacing the Memory Module(s)).
9. Replace the module cover (see Replacing the Module Cover).
10. Replace the battery (see Replacing the Battery).

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# Camera (Optional)

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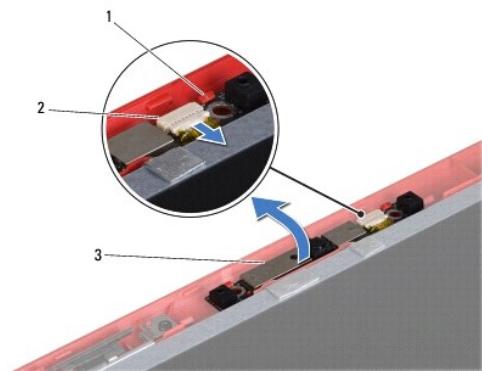
**WARNING:** **Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION:** **To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).**

**CAUTION:** **Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION:** **To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

## Removing the Camera

1. Follow the procedures in Before You Begin.
2. Remove the display assembly (see Removing the Display Assembly).
3. Remove the display bezel (see Removing the Display Bezel).
4. Disconnect the camera cable from the connector on the camera module.
5. Release the camera module from the latches on the display cover.
6. Remove the camera module.

| 1 | latches (2) | 2 | camera cable connector |
|---|---|---|---|
| 3 | camera module | | |

## Replacing the Camera

1. Secure the camera module using the latches on the display cover.
2. Connect the camera cable to the connector on the camera module.

3. Replace the display bezel (see Replacing the Display Bezel).

4. Replace the display assembly (see Replacing the Display Assembly).

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# Center Control Cover

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**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

## Removing the Center Control Cover

1. Follow the procedure in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Turn the computer top side up, and open the display as far as possible.

**CAUTION: Be extremely careful when removing the center control cover. The cover is very fragile.**

4. Pry out the center control cover with a plastic scribe starting from the back of the computer.
5. Ease the center control cover up.

| 1 | center control cover |
|---|---|

## Replacing the Center Control Cover

1. Align the tabs beneath the center control cover with the slots on the palm rest and snap the cover in place.
2. Replace the battery (see Replacing the Battery).

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# Coin-Cell Battery

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- Removing the Coin-Cell Battery
- Replacing the Coin-Cell Battery

**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

## Removing the Coin-Cell Battery

1. Follow the procedures in Before You Begin.
2. Follow the procedures from step 2 to step 16 in Removing the System Board.
3. Use a plastic scribe to pry up the coin-cell battery from the slot.

| 1 | coin-cell battery | 2 | plastic scribe |
|---|---|---|---|

## Replacing the Coin-Cell Battery

1. Hold the coin-cell battery with the positive side up.
2. Slide the coin-cell battery into the slot and gently press until it snaps to the slot.
3. Follow the procedures from step 4 to step 19 in Replacing the System Board.

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# Processor Module

**Dell™ Inspiron™ 1440 Service Manual**



**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as the back panel) on the computer.**

**CAUTION: To prevent intermittent contact between the ZIF-socket cam screw and the processor when removing or replacing the processor, press to apply slight pressure to the center of the processor while turning the cam screw.**

**CAUTION: To avoid damage to the processor, hold the screwdriver so that it is perpendicular to the processor when turning the cam screw.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

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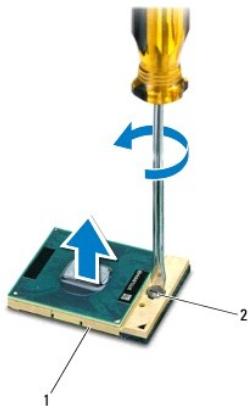
## Removing the Processor Module

1. Follow the procedures in Before You Begin.

2. Remove the processor heat sink (see Removing the Processor Heat Sink).

3. To loosen the ZIF socket, use a small, flat-blade screwdriver and rotate the ZIF-socket cam screw counterclockwise until it comes to the cam stop.

| 1 | ZIF socket | 2 | ZIF-socket cam screw |
|---|---|---|---|

**CAUTION: To ensure maximum cooling for the processor, do not touch the heat transfer areas on the processor thermal-cooling assembly. The oils in your skin can reduce the heat transfer capability of the thermal pads.**

**CAUTION: When removing the processor module, pull the module straight up. Be careful not to bend the pins on the processor module.**

4. Lift the processor module from the ZIF socket.

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## Replacing the Processor Module

**NOTE:** If a new processor is installed, you will receive a new thermal-cooling assembly, which will include an affixed thermal pad, or you will receive a new thermal pad along with documentation to illustrate proper installation.

1. Follow the procedures in Before You Begin.

2. Align the pin-1 corner of the processor module with the pin-1 corner of the ZIF socket, then insert the processor module.

**NOTE:** The pin-1 corner of the processor module has a triangle that aligns with the triangle on the pin-1 corner of the ZIF socket.

When the processor module is properly seated, all four corners are aligned at the same height. If one or more corners of the module are higher than the others, the module is not seated properly.

**CAUTION: To avoid damage to the processor, hold the screwdriver perpendicular to the processor when turning the cam screw.**

3. Tighten the ZIF socket by turning the cam screw clockwise to secure the processor module to the system board.

4. Replace the processor heat sink (see Replacing the Processor Heat Sink).

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# Processor Heat Sink

**Dell™ Inspiron™ 1440 Service Manual**



**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**WARNING: If you remove the processor heat sink from the computer when the heat sink is hot, do not touch the metal housing of the processor heat sink.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as the back panel) on the computer.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

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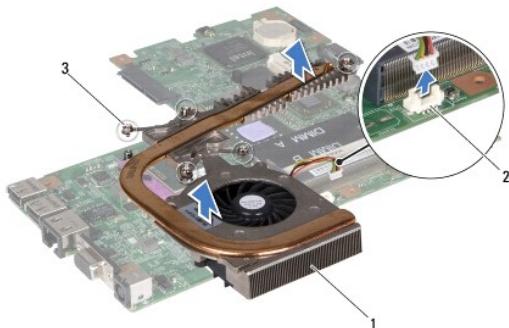
## Removing the Processor Heat Sink

1. Follow the procedures in Before You Begin.
2. Follow the procedures from step 2 to step 16 in Removing the System Board.
3. Disconnect the fan cable from the connector on the system board.
4. In sequential order (indicated on the processor heat sink), loosen the five captive screws that secure the processor heat sink to the system board.

| 1 | processor heat sink | 2 | fan cable connector |
|---|---|---|---|
| 3 | captive screws (5) | | |

5. Lift the processor heat sink off the computer.

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## Replacing the Processor Heat Sink

 **NOTE:** The original thermal pad can be reused if the original processor and heat sink are reinstalled together. If either the processor or heat sink is replaced, use the thermal pad provided in the kit to ensure that thermal conductivity is achieved.

**NOTE:** This procedure assumes that you have already removed the processor heat sink and are ready to replace it.

1. Align the five captive screws on the processor heat sink with the screw holes on the system board and tighten the screws in descending order.
2. Connect the fan cable to the connector on the system board.
3. Follow the procedures from step 4 to step 19 in Replacing the System Board.

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# Daughter Board

**Dell™ Inspiron™ 1440 Service Manual**



**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

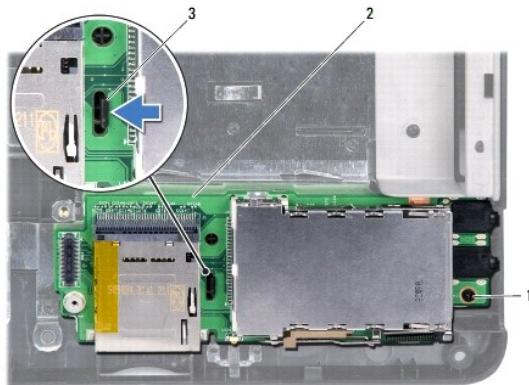
**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

## Removing the Daughter Board

1. Follow the procedures in Before You Begin.

2. Remove the system board (see Removing the System Board).

3. Remove the screw that secures the daughter board to the computer base.

4. Release the latch that secures the daughter board to the computer base and lift the daughter board out of the computer base.

| 1 | screw | 2 | daughter board |
|---|---|---|---|
| 3 | latch | | |

## Replacing the Daughter Board

1. Secure the daughter board with the latch on the computer base.

2. Replace the screw that secures the daughter board to the computer base.

3. Replace the system board (see Replacing the System Board).

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# Display

**Dell™ Inspiron™ 1440 Service Manual**



 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

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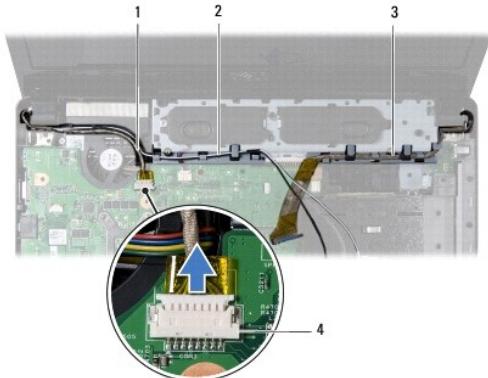
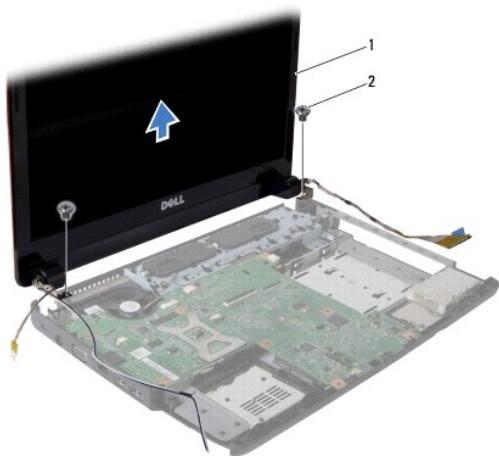
## Display Assembly

### Removing the Display Assembly

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the module cover (see Removing the Module Cover).
4. Remove the memory module(s) (see Removing the Memory Module(s)).
5. Remove the hard drive (see Removing the Hard Drive).
6. Remove the optical drive (see Removing the Optical Drive).
7. Remove the two screws from the computer base.

8. Remove the center control cover (see Removing the Center Control Cover).
9. Remove the keyboard (see Removing the Keyboard).
10. Remove the power button board (see Removing the Power Button Board).
11. Remove the palm rest (see Removing the Palm Rest).
12. Disconnect the camera cable from the system board connector.
13. Make note of the Mini-Card antenna cables, camera cable, and the display cable routing and remove the cables from their routing guides.

| 1 | camera cable | 2 | Mini-Card antenna cables |
|---|---|---|---|
| 3 | display cable | 4 | camera cable connector |

14. Remove the two screws that secure the display assembly to the computer base.

| 1 | display assembly | 2 | screws (2) |
|---|---|---|---|

15. Lift and remove the display assembly from the computer base.

## Replacing the Display Assembly

1. Place the display assembly in position and replace the two screws that secure the display assembly to the computer base.
2. Route the Mini-Card antenna cables, camera cable, and display cable through the routing guides.
3. Connect the camera cable to the system board connector.
4. Replace the palm rest (see Replacing the Palm Rest).
5. Replace the power button board (see Removing the Power Button Board).
6. Replace the keyboard (see Replacing the Keyboard).
7. Replace the center control cover (see Replacing the Center Control Cover).
8. Replace the two screws at the bottom of the computer.

9. Replace the optical drive (see Replacing the Optical Drive).
10. Replace the hard drive (see Replacing the Hard Drive).
11. Replace the memory module(s) (see Replacing the Memory Module(s)).
12. Replace the module cover (see Replacing the Module Cover).
13. Replace the battery (see Replacing the Battery).

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# Display Bezel

## Removing the Display Bezel

**CAUTION: The display bezel is extremely fragile. Be careful when removing it to prevent damaging the bezel.**

1. Remove the display assembly (see Removing the Display Assembly).
2. Using your fingertips, carefully pry up the inside edge of the display bezel.

| 1 | display bezel |
|---|---|

3. Remove the display bezel.

## Replacing the Display Bezel

1. Realign the display bezel over the display panel, and gently snap into place.
2. Replace the display assembly (see Replacing the Display Assembly).

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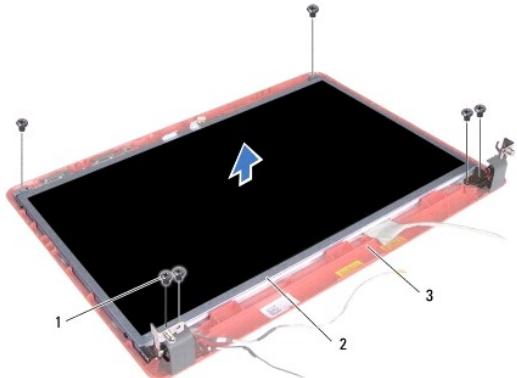
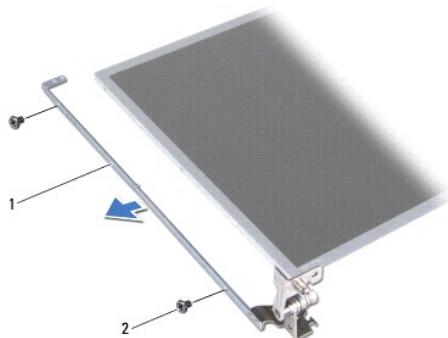
# Display Panel

## Removing the Display Panel

1. Remove the display assembly (see Removing the Display Assembly).
2. Remove the display bezel (see Removing the Display Bezel).
3. Remove the six screws that secure the display panel to the display cover.
4. Remove the Mini-Card cables, camera cable, and display cable from the hinge latches.

5. Remove the display panel.

| 1 | screws (6) | 2 | display panel |
|---|---|---|---|
| 3 | display cover | | |

6. Remove the four screws that secure the display panel brackets to the display panel.

| 1 | display panel brackets (2) | 2 | screws (4) |
|---|---|---|---|

## Replacing the Display Panel

1. Replace the four screws that secure the display panel brackets to the display panel.
2. Align the screw holes on the display panel with the holes on the display cover.
3. Route the Mini-Card cables, camera cable, and display cable through the hinge latches.
4. Replace the six screws that secure the display panel to the display cover.
5. Replace the display bezel (see Replacing the Display Bezel).
6. Replace the display assembly (see Replacing the Display Assembly).

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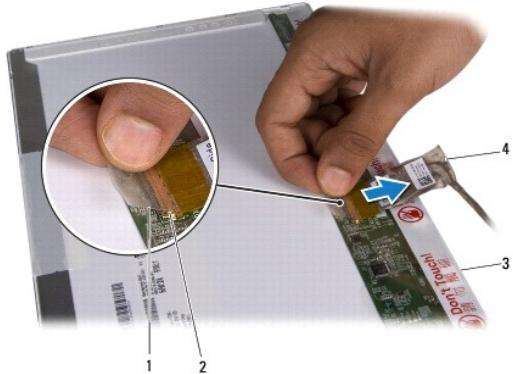
# Display Panel Cable

## Removing the Display Panel Cable

1. Follow the procedures in Before You Begin.

2. Remove the display assembly (see Removing the Display Assembly).
3. Remove the display bezel (see Removing the Display Bezel).
4. Remove the display panel (see Removing the Display Panel).
5. Turn over the display panel and place it on a clean surface.
6. Lift the conductive tape that secures the display panel cable to the display board connector and disconnect the display panel cable.

| 1 | conductive tape | 2 | display board connector |
| --- | --- | --- | --- |
| 3 | back of display panel | 4 | display panel cable |

## Replacing the Display Panel Cable

1. Connect the display panel cable to the display board connector and secure it with the conductive tape.
2. Replace the display panel (see Replacing the Display Panel).
3. Replace the display bezel (see Replacing the Display Bezel).
4. Replace the display assembly (see Replacing the Display Assembly).

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# Hard Drive

**Dell™ Inspiron™ 1440 Service Manual**



**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**WARNING: If you remove the hard drive from the computer when the drive is hot, do not touch the metal housing of the hard drive.**

**CAUTION: To prevent data loss, turn off your computer (see [Turning Off Your Computer](#)) before removing the hard drive. Do not remove the hard drive while the computer is On or in Sleep state.**

**CAUTION: Hard drives are extremely fragile. Exercise care when handling the hard drive.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see [Removing the Battery](#)) before working inside the computer.**

**NOTE:** Dell does not guarantee compatibility or provide support for hard drives from sources other than Dell.

**NOTE:** If you are installing a hard drive from a source other than Dell, you need to install an operating system, drivers, and utilities on the new hard drive (see the *Dell Technology Guide*).

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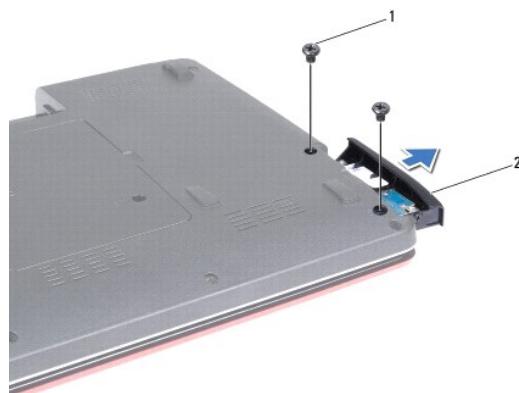
## Removing the Hard Drive

1. Follow the procedures in [Before You Begin](#).
2. Remove the battery (see [Removing the Battery](#)).

**CAUTION: When the hard drive is not in the computer, store it in protective antistatic packaging (see "Protecting Against Electrostatic Discharge" in the safety instructions that shipped with your computer).**

3. Remove the two screws that secure the hard drive assembly to the computer base.
4. Slide the hard drive assembly out of the hard drive compartment.

| 1 | screws (2) | 2 | hard drive assembly |
|---|---|---|---|

5. Remove the two screws that secure the hard drive bezel to the hard drive.
6. Remove the hard drive.

| 1 | hard drive bezel | 2 | screws (2) |
|---|---|---|---|

## Replacing the Hard Drive

1. Remove the new hard drive from its packaging.
   Save the original packaging for storing or shipping the hard drive.
2. Align the screw holes on the hard drive bezel with the holes on the hard drive.
3. Replace the two screws that secure the hard drive bezel to the hard drive.
4. Slide the hard drive assembly into the hard drive compartment until it is fully seated.
5. Replace the two screws that secure the hard drive assembly to the computer base.
6. Replace the battery (see Replacing the Battery).
7. Install the operating system for your computer, as needed. See "Restoring Your Operating System" in the *Setup Guide*.
8. Install the drivers and utilities for your computer, as needed. For more information, see the *Dell Technology Guide*.

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# Keyboard

**Dell™ Inspiron™ 1440 Service Manual**



 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

 **CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

---

## Removing the Keyboard

1. Follow the procedures in Before You Begin.

2. Remove the battery (see Removing the Battery).

3. Remove the center control cover (see Removing the Center Control Cover).

4. Remove the two screws that secure the keyboard to the palm rest.

| 1 | screws (2) | 2 | keyboard |
|---|---|---|---|

**CAUTION: The keycaps on the keyboard are fragile, easily dislodged, and time-consuming to replace. Be careful when removing and handling the keyboard.**

**CAUTION: Be extremely careful when removing and handling the keyboard. Failure to do so could result in scratching the display panel.**

5. Pry the center rear side of the keyboard by using your finger or a flat-blade screwdriver. Slightly release the left side of the keyboard and then the right side till it comes out from its base.

6. Ease the keyboard up until it clears off the palm rest.

7. Without pulling hard on the keyboard, hold it towards the display.

8. Lift the connector latch that secures the keyboard cable to the connector on the system board and remove the cable.

| 1 | keyboard tabs (5) | 2 | keyboard cable connector |
|---|---|---|---|

9. Lift the keyboard off the palm rest.

## Replacing the Keyboard

1. Slide the keyboard cable into the connector on the system board. Press down on the connector latch that secures the keyboard cable to the system board connector.
2. Align the five tabs on the keyboard with the slots on the palm rest.
3. Place the keyboard on the palm rest.
4. Replace the two screws that secure the keyboard to the palm rest.
5. Replace the center control cover (see Replacing the Center Control Cover).
6. Replace the battery (see Replacing the Battery).

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# Battery Latch Assembly

**Dell™ Inspiron™ 1440 Service Manual**



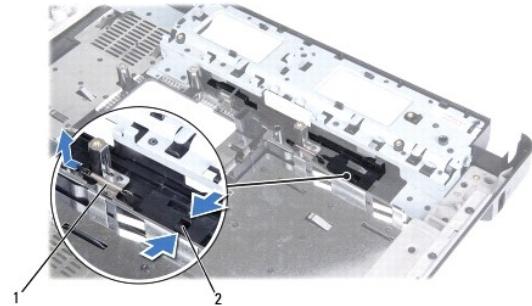
 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

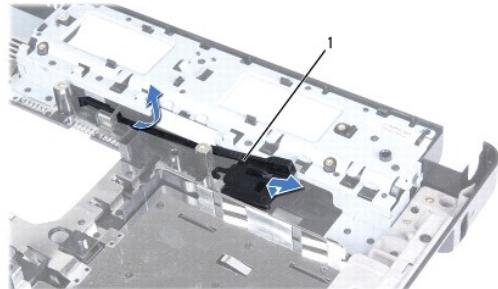
**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

 **CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

## Removing the Battery Latch Assembly

1. Follow the procedures in Before You Begin.
2. Remove the system board (see Removing the System Board).
3. Press and push the plastic clips on battery release latch to release it from the battery latch assembly.
4. Using a small screwdriver, remove the latch spring on the battery latch assembly.

| 1 | latch spring | 2 | plastic clips |
|---|---|---|---|

5. Slide the battery latch assembly to the side and remove it from the computer base.

| 1 | battery latch assembly |
|---|---|

## Replacing the Battery Latch Assembly

1. Slide the battery latch assembly into place.

2. Using a small screwdriver, place the latch spring over the hook on the computer base.

3. Push the plastic clips on the battery release latch into the hole on the battery latch assembly to secure the battery release latch.

4. Replace the system board (see Replacing the System Board).

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# Memory Module(s)

**Dell™ Inspiron™ 1440 Service Manual**



**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as a connector on the back of the computer).**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

You can increase your computer memory by installing memory modules on the system board. See "Specifications" in your *Setup Guide* for information on the memory supported by your computer.

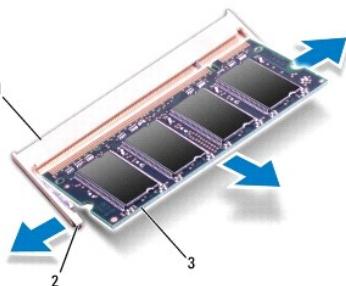
**NOTE:** Memory modules purchased from Dell™ are covered under your computer warranty.

Your computer has two user-accessible SODIMM sockets, DIMM A and DIMM B, accessed from the bottom of the computer.

## Removing the Memory Module(s)

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the module cover (see Removing the Module Cover).

**CAUTION: To prevent damage to the memory module connector, do not use tools to spread the memory module securing clips.**

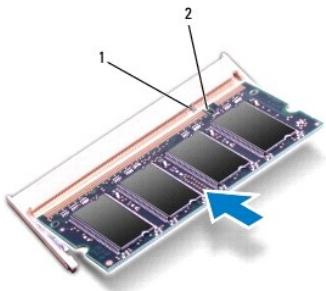
4. Use your fingertips to carefully spread apart the securing clips on each end of the memory module connector until the module pops up.
5. Remove the memory module from the memory module connector.

| 1 | memory module connector | 2 | securing clips (2) |
|---|---|---|---|
| 3 | memory module | | |

## Replacing the Memory Module(s)

**CAUTION: If you need to install memory modules in two connectors, install a memory module in the connector labeled "DIMM A" before you install a memory module in the connector labeled "DIMM B."**

1. Align the notch in the memory module with the tab in the memory module connector.

2. Slide the memory module firmly into the slot at a 45-degree angle, and press the memory module down until it clicks into place. If you do not hear the click, remove the memory module and reinstall it.

**NOTE:** If the memory module is not installed properly, the computer may not boot.

| 1 | tab | 2 | notch |
|---|---|---|---|

3. Replace the module cover (see Replacing the Module Cover).

4. Replace the battery (see Replacing the Battery), or connect the AC adapter to your computer and an electrical outlet.

5. Turn on the computer.

As the computer boots, it detects the memory module(s) and automatically updates the system configuration information.

To confirm the amount of memory installed in the computer, click **Start** → **Help and Support**→ **Dell System Information**.

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# Wireless Mini-Card

**Dell™ Inspiron™ 1440 Service Manual**



**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

**CAUTION: When the Mini-Card is not in the computer, store it in protective antistatic packaging (see "Protecting Against Electrostatic Discharge" in the safety instructions that shipped with your computer).**

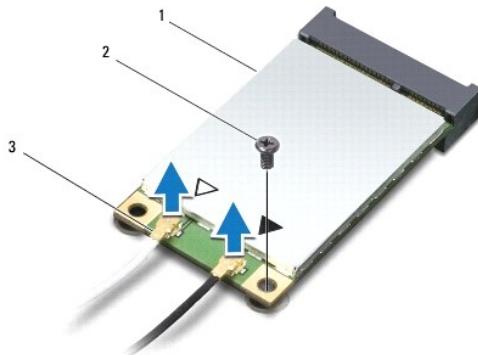
**NOTE:** Dell does not guarantee compatibility or provide support for Mini-Cards from sources other than Dell.

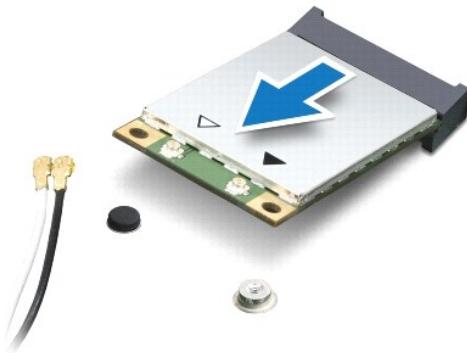
If you ordered a wireless Mini-Card with your computer, the card is already installed.

Your computer supports one half Mini-Card slot for Wireless Local Area Network (WLAN).

**NOTE:** Depending on the configuration of the computer when it was sold, the Mini-Card slot may or may not have Mini-Card installed in the slot.

## Removing the Mini-Card

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the module cover (see Removing the Module Cover).
4. Disconnect the antenna cables from the Mini-Card.

| | | | |
|---|---|---|---|
| 1 | Mini-Card | 2 | screw |
| 3 | antenna cable connectors (2) | | |

5. Remove the screw that secures the Mini-Card to the system board connector.
6. Lift the Mini-Card out of the system board connector.

## Replacing the Mini-Card

1. Remove the new Mini-Card from its packaging.

**CAUTION: Use firm and even pressure to slide the card into place. If you use excessive force, you may damage the connector.**

**CAUTION: The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors on the card and on the system board, and realign the card.**

**CAUTION: To avoid damage to the Mini-Card, never place cables under the card.**

2. Insert the Mini-Card at a 45-degree angle into the appropriate system board connector.

3. Press the other end of the Mini-Card down into the slot on the system board and replace the screw that secures the Mini-Card to the system board connector.

4. Connect the appropriate antenna cables to the Mini-Card. The following table provides the antenna cable color scheme for the Mini-Card supported by your computer.

| Connectors on the Mini-Card | Antenna Cable Color Scheme |
|---|---|
| **WLAN (2 antenna cables)** | |
| Main WLAN (white triangle) | white |
| Auxiliary WLAN (black triangle) | black |

5. Secure unused antenna cables in the protective mylar sleeve.

6. Replace the module cover (see Replacing the Module Cover).

7. Replace the battery (see Replacing the Battery).

8. Install the drivers and utilities for your computer, as required. For more information, see the *Dell Technology Guide*.

**NOTE:** If you are installing a communication card from a source other than Dell, you must install the appropriate drivers and utilities. For more generic driver information, see the *Dell Technology Guide*.

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# Optical Drive

**Dell™ Inspiron™ 1440 Service Manual**



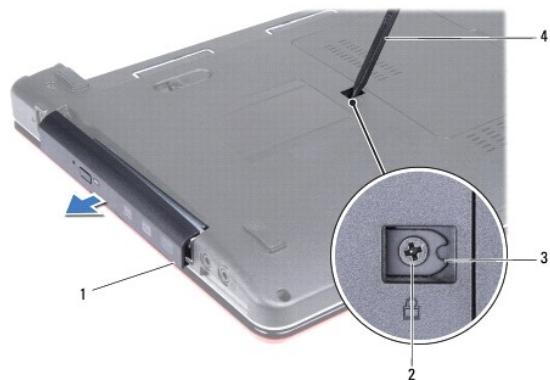
 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

 **CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface (such as the back panel) on the computer.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

## Removing the Optical Drive

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the screw that secures the optical drive to the computer base.
4. Using a plastic scribe, push the notch to remove the optical drive from the optical drive bay.
5. Slide the optical drive out of the optical drive bay.

| 1 | optical drive | 2 | screw |
|---|---|---|---|
| 3 | notch | 4 | plastic scribe |

## Replacing the Optical Drive

1. Slide the optical drive into the optical drive bay until it is fully seated.
2. Replace the screw that secures the optical drive to the computer base.
3. Replace the battery (see Replacing the Battery).

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# Palm Rest

**Dell™ Inspiron™ 1440 Service Manual**



**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

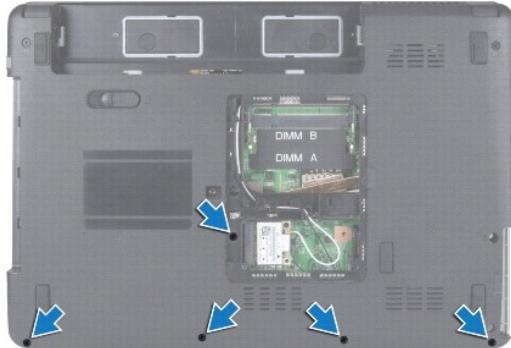
**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

---

## Removing the Palm Rest

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the module cover (see Removing the Module Cover).
4. Remove the memory module(s) (see Removing the Memory Module(s)).
5. Remove the hard drive (see Removing the Hard Drive).
6. Remove the optical drive (see Removing the Optical Drive).
7. Disconnect the antenna cables from the Mini-Card (see Removing the Mini-Card).
8. Remove the five screws from the computer base.

9. Make note of the Mini-Card cables routing and remove the cables from the routing guides.

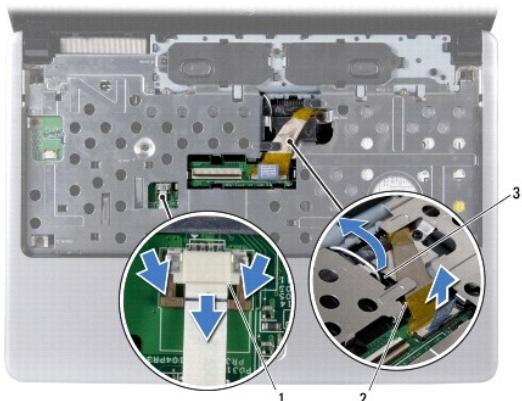
| 1 | routing guides |
|---|---|

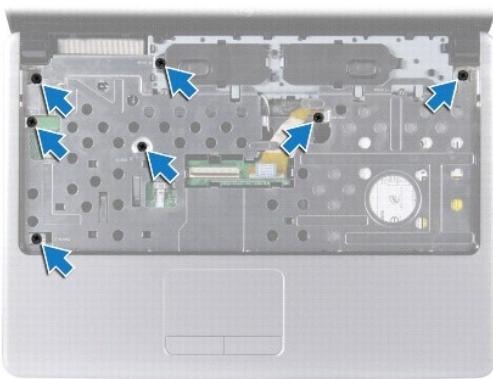
10. Remove the center control cover (see Removing the Center Control Cover).

11. Remove keyboard (see Removing the Keyboard).

12. Remove the power button board (see Removing the Power Button Board).

13. Disconnect the display cable and touch pad cable from their respective system board connectors.

14. Make note of the cable routing and carefully dislodge the antenna cables from the slot on the computer. Pull the cables away, so that they are clear of the palm rest.

| 1 | touch pad cable connector | 2 | display cable connector |
|---|---|---|---|
| 3 | antenna cable slot on the computer | | |

15. Remove the seven screws on the palm rest.

**CAUTION: Carefully separate the palm rest from the computer base to avoid damage to the palm rest.**

16. Starting at the right/left of the palm rest, use your fingers to separate the palm rest from the computer base.
17. Lift the palm rest off the computer base.

---

## Replacing the Palm Rest

1. Align the palm rest on the computer base and gently snap the palm rest into place.
2. Replace the seven screws on the palm rest.
3. Connect the display cable and touch pad cable to their respective system board connectors.
4. Route the Mini-Card antenna cables, and guide the cables to the bottom of the computer through the slot on the computer.
5. Replace the power button board (see Replacing the Power Button Board).
6. Replace the keyboard (see Replacing the Keyboard).
7. Replace the center control cover (see Replacing the Center Control Cover).
8. Replace the five screws at the bottom of the computer.
9. Route and connect the antenna cables to the Mini-Card (see Replacing the Mini-Card).
10. Replace the memory module(s) (see Replacing the Memory Module(s)).
11. Replace the module cover (see Replacing the Module Cover).
12. Replace the optical drive (see Replacing the Optical Drive).
13. Replace the hard drive (see Replacing the Hard Drive).
14. Replace the battery (see Replacing the Battery).

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# Power Button Board

**Dell™ Inspiron™ 1440 Service Manual**



**WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

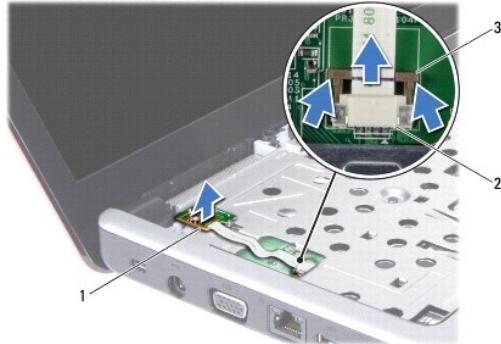
**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

## Removing the Power Button Board

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the center control cover (see Removing the Center Control Cover).
4. Remove the keyboard (see Removing the Keyboard).
5. Release the power button board cable lock and disconnect the power button board cable from the system board connector.

**CAUTION: The power button board is glued to the palm rest. Do not pull on the power button board cable to remove the power button board.**

| 1 | power button board | 2 | power button board connector |
|---|---|---|---|
| 3 | power button board cable lock | | |

6. Using a plastic scribe, pry out the power button board to release it from the palm rest.
7. Lift the power button board off the palm rest.

## Replacing the Power Button Board

1. Align the holes on the power button board with the protrusion on the palm rest and keep it in place.
2. Slide the power button board cable into the connector on the system board. Press down the power button board cable lock to secure the cable to the system board connector.

3. Replace the keyboard (see Replacing the Keyboard).

4. Replace the center control cover (see Replacing the Center Control Cover).

5. Replace the battery (see Replacing the Battery).

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# Battery

**Dell™ Inspiron™ 1440 Service Manual**



 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

**CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.**

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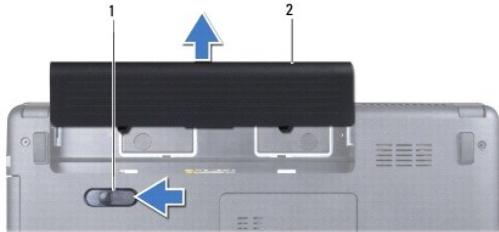
## Removing the Battery

1. Shut down the computer and turn it over.

| 1 | battery release latch | 2 | battery |
|---|---|---|---|

2. Slide and hold the battery release latch.

3. Slide the battery out of the battery bay.

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## Replacing the Battery

Slide the battery in the battery bay until it clicks into place.

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# Speakers

**Dell™ Inspiron™ 1440 Service Manual**



 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

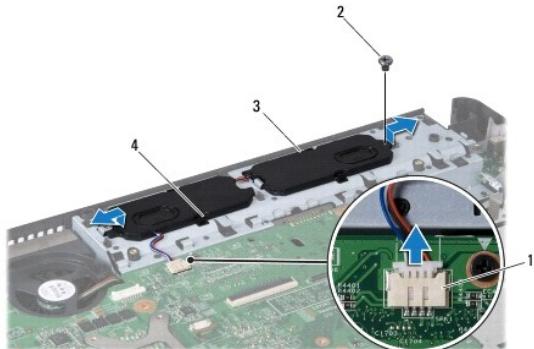
 **CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

**CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

---

## Removing the Speakers

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the module cover (see Removing the Module Cover).
4. Remove the memory module(s) (see Removing the Memory Module(s)).
5. Remove the center control cover (see Removing the Center Control Cover).
6. Remove the keyboard (see Removing the Keyboard).
7. Remove the power button board (see Removing the Power Button Board).
8. Remove the palm rest (see Removing the Palm Rest).
9. Remove the display assembly (see Removing the Display Assembly).
10. Disconnect the speaker cable from the connector on the system board.
11. Remove the screw that secures the speaker to the computer base.
12. Release the speakers from the latches on computer base.
13. Lift the speakers off the computer base.

| 1 | speaker cable connector | 2 | screw |
|---|---|---|---|
| 3 | speakers (2) | 4 | latches (4) |

## Replacing the Speakers

1. Secure the speakers using the latches on the computer base.
2. Replace the screw that secures the speaker to the computer base.
3. Connect the speaker cable to the connector on the system board.
4. Replace the display assembly (see Replacing the Display Assembly).
5. Replace the palm rest (see Replacing the Palm Rest).
6. Replace the power button board (see Replacing the Power Button Board).
7. Replace the keyboard (see Replacing the Keyboard).
8. Replace the center control cover (see Replacing the Center Control Cover).
9. Replace the memory module(s) (see Replacing the Memory Module(s)).
10. Replace the module cover (see Replacing the Module Cover).
11. Replace the battery (see Replacing the Battery).

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# System Board

**Dell™ Inspiron™ 1440 Service Manual**



 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

 **CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

 **CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

**CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

---

## Removing the System Board

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the module cover (see Removing the Module Cover).
4. Remove the memory module(s) (see Removing the Memory Module(s)).
5. Remove the hard drive (see Removing the Hard Drive).
6. Remove the optical drive (see Removing the Optical Drive).
7. Remove the Mini-Card (see Removing the Mini-Card).
8. Remove the center control cover (see Removing the Center Control Cover).
9. Remove the keyboard (see Removing the Keyboard).
10. Remove the power button board (see Removing the Power Button Board).
11. Remove the palm rest (see Removing the Palm Rest).
12. Remove the Bluetooth card (see Removing the Bluetooth Card).
13. Disconnect the speakers cable and the USB board cable from their respective system board connectors.
14. Remove the three screws that secure the system board to the computer base.

| 1 | screws (3) | 2 | system board |
|---|---|---|---|

15. Lift the system board to disconnect the system board from the connector on the daughter board.

16. Turn the system board over.
17. Remove the processor heat sink (see Removing the Processor Heat Sink).
18. Remove the processor module (see Removing the Processor Module).
19. Remove the coin-cell battery (see Removing the Coin-Cell Battery).

---

## Replacing the System Board

1. Replace the coin-cell battery (see Replacing the Coin-Cell Battery).
2. Replace the processor module (see Replacing the Processor Module).
3. Replace the processor heat sink (see Replacing the Processor Heat Sink).
4. Turn the system board over.
5. Align the screw holes on the system board with the screw holes on the computer base.
6. Connect the system board connector to the connector on the daughter board.
7. Replace the three screws that secure the system board to the computer base.
8. Connect the speakers cable and the USB board cable to their respective system board connectors.
9. Replace the Bluetooth card (see Replacing the Bluetooth Card).
10. Replace the palm rest (see Replacing the Palm Rest).
11. Replace the power button board (see Replacing the Power Button Board).
12. Replace the keyboard (see Replacing the Keyboard).
13. Replace the center control cover (see Replacing the Center Control Cover).
14. Replace the Mini-Card (see Replacing the Mini-Card).
15. Replace the optical drive (see Replacing the Optical Drive).
16. Replace the hard drive (see Replacing the Hard Drive).
17. Replace the memory module(s) (see Replacing the Memory Module(s)).
18. Replace the module cover (see Replacing the Module Cover).
19. Replace the battery (see Replacing the Battery).

**CAUTION: Before turning on the computer, replace all screws and ensure that no stray screws remain inside the computer. Failure to do so may result in damage to the computer.**

20. Turn on the computer.

**NOTE:** After you have replaced the system board, enter the computer's Service Tag into the BIOS of the replacement system board.

21. Enter the service tag (see Entering the Service Tag in the BIOS).

---

## Entering the Service Tag in the BIOS

1. Ensure that the AC adapter is plugged in and that the main battery is installed properly.

2. Turn on the computer.

3. Press <F2> during POST to enter the system setup program.

4. Navigate to the security tab and enter the service tag in the **Set Service Tag** field.

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## Dell™ Inspiron™ 1440 Service Manual

**NOTE:** A NOTE indicates important information that helps you make better use of your computer.

**CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**

**WARNING: A WARNING indicates a potential for property damage, personal injury, or death.**



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# USB Board

**Dell™ Inspiron™ 1440 Service Manual**

- [Removing the USB Board](#)
- [Replacing the USB Board](#)

 **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

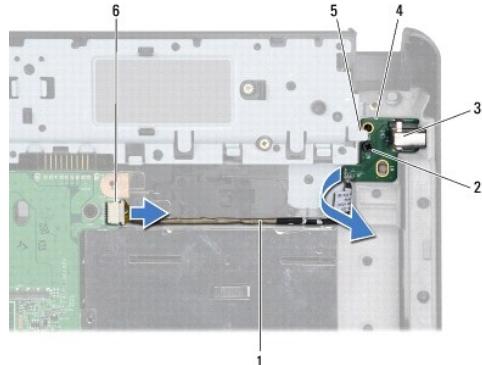
 **CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface.**

 **CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell™ is not covered by your warranty.**

 **CAUTION: To help prevent damage to the system board, remove the main battery (see Removing the Battery) before working inside the computer.**

---

## Removing the USB Board

1. Follow the procedures in Before You Begin.
2. Remove the battery (see Removing the Battery).
3. Remove the module cover (see Removing the Module Cover).
4. Remove the memory module(s) (see Removing the Memory Module(s)).
5. Remove the optical drive (see Removing the Optical Drive).
6. Remove the center control cover (see Removing the Center Control Cover).
7. Remove the keyboard (see Removing the Keyboard).
8. Remove the power button board (see Removing the Power Button Board).
9. Remove the palm rest (see Removing the Palm Rest).
10. Disconnect the USB board cable from the system board connector.
11. Remove the screw that secures the USB board to the computer base.
12. Make note of the USB board cable routing and remove the USB board cable from the computer base.
13. Lift the edge of the USB board till the routing guide on the computer base, angle the USB board to the right until it clears the routing guide, and lift the USB board out of the computer base.

| 1 | USB board cable routing | 2 | screw |
|---|---|---|---|
| 3 | USB connector | 4 | USB board |

| 5 | routing guide | 6 | USB board cable connector |
|---|---|---|---|

## Replacing the USB Board

1. Using your index finger, route the USB connector into the USB connector slot in the computer base.
2. Rotate the USB board to the left under the routing guide on the computer base and keep it in place.
3. Align the hole on the USB board with the protrusion on the computer base.
4. Replace the screw that secures the USB board to the computer base.
5. Route the USB cable and connect it to the system board connector.
6. Replace the palm rest (see Replacing the Palm Rest).
7. Replace the power button board (see Replacing the Power Button Board).
8. Replace the keyboard (see Replacing the Keyboard).
9. Replace the center control cover (see Replacing the Center Control Cover).
10. Replace the optical drive (see Replacing the Optical Drive).
11. Replace the memory module(s) (see Replacing the Memory Module(s)).
12. Replace the module cover (see Replacing the Module Cover).
13. Replace the battery (see Replacing the Battery).

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